



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/674,877

09/29/2003

Harry Schilling

5858-01400

9209

35617 7590 07/19/2010
DAFFER MCDANIEL LLP
P.O. BOX 684908
AUSTIN, TX 78768

EXAMINER

LU, ZHIYU

ART UNIT

PAPER NUMBER

2618

MAIL DATE

DELIVERY MODE

07/19/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/674,877	Applicant(s) SCHILLING ET AL.	
	Examiner ZHIYU LU	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2 and 4-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2 and 4-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 05/06/2010 have been fully considered but they are not persuasive.

Regarding rejections on claims 2 and 8, applicants argued that the digital signal data from the SCI (serial input) of Rider only causes a switch to either to pass the carrier signal for transmission or to couple the carrier signal to ground. Contrary to the claims, the digital data from the serial input received from alleged data source are not conducted along alleged transmitter conductor array. And the carrier signal is generated by means of internal frequency synthesis and is not generated from a serial data stream received from a data source.

However, the Examiner does not agree. Despite applicants' reading in Rider, the output of SCI (serial data from data source, e.g. a personal computer, Figs. 6-7, column 9 lines 32-37) in Rider does more than just switching. First off, a 1-bit digital data is enough for causing a switch to be on or off, but Rider discloses "microcontroller 111 programs its internal SCI for the correct data format, baud rate, etc. and loads a data byte, representing the information to be transmitted, into the SCI. The output of the SCI is in standard asynchronous serial Non Return to Zero (NRZ) mark/space format, with an 8-bit data word, odd parity, and one stop bit" (column 10 lines 60-66). So, Rider's digital information from SCI apparently does more than just control switch 177. Second, Rider clearly disclose "Consequently, the carrier signal from amplifier 176 (the transmitter's carrier signal) is amplitude encoded (turned on and off), in response to the digital signal pattern provided at the output of the SCI in processor circuit 110. Digital information is

Art Unit: 2618

encoded onto the transmitted carrier signal utilizing the following data protocol. The first serial data byte transmitted (represented by the data at the output of the SCI) includes a category code which defines the category or type of data being transmitted” (column 13 lines 8-18). It shows that the 8-bit digital data from SCI (from a serial data stream received from a data source, e.g. a personal computer) is encoded into carrier signal for transmission. Rider indicates that the 8-bit data are used as category codes transmitted with carrier signal, so that receiver can identify and configure itself optimally to operate compatibly with the particular type of transmission (column 13 line 32 to column 14 line 23), wherein transmission between the transmitter and the receiver is conducted through a transmitter conductor array (Fig. 5). Therefore, Rider does teach “a transmitter for generating electrical signals from a serial data stream received from a data source, and a transmitter conductor array for conducting said electrical signals generated by the transmitter to a receiver”.

Then, applicants argued that the teaching of Meinke cannot be combined with Rider to teach a controller that converts a data rate or data package size of a serial data stream into a desired value of data rate or data package size because Meinke does not provide teaching for data rate conversion. Applicants’ argument then referred back to the previous argument on the output of SCI being used only for controlling the switch.

However, the Examiner does not agree. First off, Rider teaches “microcontroller 111 programs its internal SCI for the correct data format, baud rate, etc. and loads a data byte, representing the information to be transmitted, into the SCI” (column 12 lines 60-61), which obviously shows the microcontroller of Rider controls and manipulates baud rate or symbol rate or modulation rate of serial input from data source. Otherwise, Rider

Art Unit: 2618

does not need those data control settings by microcontroller to manipulate SCI data used only for flipping a switch. Despite applicants' argument, "a desired value of data rate or data package size" is taught by Rider as the preferred or default baud rate controlled by microcontroller. And as explained above, digital data from SCI is too part of information in signal transmission through transmitting conductor array. As shown by Figs. 6-7 and in column 9 lines 32-37 of Rider, data source may be an external personal computer. It would have been obvious to one of ordinary skill in the art to recognize there may be compatibility issue between arrangements, which is why the microcontroller of Rider programs its internal SCI for the correct data format, baud rate, etc. to manipulate data entering SCI. To further show that data rate conversion between arrangements as a known technique, Meinke discloses in background that "data rate converters are frequently used to provide an interface between arrangements which must intercommunicate but which operate at different rates" (column 1 lines 12-19). Applicants' argument on FIFO is moot. Therefore, one of ordinary skill in the art would have obviously recognized that the microcontroller of Rider could also use data rate converter taught by Meinke for controlling data rate entering SCI.

Thus, the rejections are proper and maintained.

Regarding rejection on claim 7, applicants argued that Rider does not disclose a system that is self-learning and adapts itself dynamically to condition of operation.

However, the Examiner does not agree. First off, the claim does not specify what kind of operation condition, not to mention the usage of "feedback". Nevertheless, Rider in column 25 lines 7-40 teaches the system adapts itself dynamically (to determine the

Art Unit: 2618

desired operation mode for transmitter) to respective conditions of operation (determine the resonant frequency of that tank). Also, Rider teaches the receiver is capable of automatically and optimally configuring itself to operate compatibly with the particular type of transmitter and accordingly utilize the information impressed on the detected signal by that transmitter (column 14 lines 18-23). So, Rider does teach argued limitation.

Thus, the rejection is proper and maintained.

Regarding rejection on claim 12, applicants argued that Rider does not disclose a decoder coupled to or within a receiver for converting a data rate or data package size of signals received by the receiver into the data rate or data package size generated by the data source.

However, the Examiner does not agree. Rider teaches encoding different digital information into the carrier signal (column 13 lines 13-31, column 25 lines 57-65) at the transmitter side. So, inherently there must be a decoder at the receiver side (e.g. inside microprocessor of receiver) to decode the information. The data must be reverted back to information that the computer at the receiver side understands. Therefore, the argued limitation is taught inherently in Rider.

Thus, the rejection is proper and maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (US5264795) in view of Meinke (US4193123).

Regarding claim 2, Rider teaches device for broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints, wherein said first unit (100 of Figs. 5-6) comprises:

a data source for generating a serial data stream (145 of Fig. 6, column 9 lines 34-37);

a transmitter (100 of Fig. 5) for generating electrical signals from said serial data stream from said data source (column 9 lines 34-37, column 12 line 48 to column 13 line 31);

a controller (110 of Fig. 6) coupled between said data source and said transmitter for controlling said serial data stream, wherein said controller comprises:

means for storing (RAM of Fig. 7, wherein input data processed by microcontroller obviously goes through a temporary storage area) data from the serial data stream; and

Art Unit: 2618

means for outputting (114, 115, 117-118 of Fig. 7) the stored data to said transmitter in accordance with the desired value of data rate or data package size (column 10 lines 3-45, programmable timer for desired rate); and
a transmitter conductor array (20 of Fig. 5) for conducting said electrical signals generated by said transmitter;

wherein said second unit (200 of Figs. 5-6) comprises:

a receiving antenna (290 of Fig. 6) for tapping electrical signals in the near field of said transmitter conductor array;

a receiver (260 of Fig. 6) for receiving the signals tapped by said receiving antenna; and

a data sink (210 of Fig. 6) for subsequent processing of the signals received by said receiver.

Rider does not expressly disclose converting a data rate or data package size of said data source into a desired value of data rate or data package size.

However, Rider teaches said data source being from a personal computer (column 9 lines 34-37, which is digital data packet) and processing/modulating said serial data stream from said data source with a default baud rate (column 10 lines 4-45, column 12 lines 55-63). And data rate/bit rate is the product of the symbol rate (baud rate) and the number of bits encoded in each symbol. It would have been obvious to one of ordinary skill in the art to recognize that the data rate of the source of Rider does changed in the processing through the transmitter.

Meinke teaches digital-to-analog converter requiring data rate conversion between a digital information source and the converter itself (column 1 lines 12-19).

Art Unit: 2618

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the data rate conversion taught by Meinke into the converters of Rider, in order to provide an interface between arrangements that operate at different rates.

Regarding claim 8, Rider and Meinke teach a method of broadband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, via non-contacting rotary joints as explained in response to claim 2 above.

Regarding claim 6, Rider and Meinke teach the limitation of claim 2.

Rider teach further comprising a micro controller is provided for controlling or diagnosing the system (Processor of Fig. 7).

Regarding claim 7, Rider and Meinke teach the limitation of claim 1.

Rider teaches wherein the system is self-learning and adapts itself dynamically to respective conditions of operation, (column 25 lines 7-40, where a tank circuit provides information for microcontroller to determine the desired operating mode for transmitter).

Regarding claim 12, Rider and Meinke teach the limitation of claim 2.

Rider teaches further comprising a decoder (210 of Fig. 6, 611 of Fig. 14) coupled to or included within said receiver for converting a data rate or data package size of the signals

Art Unit: 2618

received by said receiver into the data rate or data package size generated by said data source (decoder is inherent in receiver for decoding encoded information from transmitter).

3. Claims 4 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (US Patent#5264795) in view of Meinke (USUS4193123), Richley et al. (US Patent#5437057) and Waters et al. (US Patent#6611776).

Regarding claims 4 and 9, Rider and Meinke teach the limitations of claims 2 and 8.

But, Rider and Meinke do not expressly disclose wherein the desired value is determined by a desired-value generator according to actual transmission characteristics of a data transmission path between said transmitter and said receiver.

Richley et al. teach near field coupling is employed for transferring data back and forth between stations (abstract, Figs. 4-5), which would have been obvious for one of ordinary skill in the art to incorporate into the devices of Rider and Meinke with modification of near-field transceiver taught by Richley et al., in order to enable two-way communication.

Waters et al. teach a controller is provided for controlling said data stream by signaling a desired value of data rate to said transmitter for short-range wireless communication (4 of Fig. 1, column 3 line 66 to column 4 line 15), which is to inform the transmitter data rate adjustment needed based on the characteristics of the data transmission path.

Art Unit: 2618

Despite difference in wireless communication protocols, modification for communication feedback in improving communication quality would have been an obvious feature in wireless communication for one of ordinary skill in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate having controller informed of changing data rate taught by Waters et al. into the device of Rider, Meinke and Richley et al., in order to maintain or improve communication quality.

Regarding claim 10, Rider, Meinke, Richley et al., and Waters et al. teach the limitation of claim 9.

Rider, Meinke, Richley et al., and Waters et al. teach wherein said step of controlling the serial data stream comprises supplying the desired value of data rate or data package size to said transmitter as explained in response to claim 9 above.

Regarding claim 11, Rider, Meinke, Richley et al., and Waters et al. teach the limitation of claim 10.

Rider, Meinke, Richley et al., and Waters et al. teach wherein said step of controlling the serial data stream comprises storing data from the serial data stream if the desired data rate is lower than a rate at which the serial data stream is generated by the data source in said generating step (obvious because a temporary storing is needed for data rate conversion)

Art Unit: 2618

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rider (US Patent#5264795) in view of Meinke (US4193123), Richley et al. (US Patent#5437057) and Marchetto et al. (US Patent#5914959).

Regarding claim 5, Rider and Meinke teach the limitation of claim 2.

But, Rider and Meinke do not expressly disclose further comprising an analyzer coupled between said receiver and said data sink, wherein said analyzer is configured for signaling incorrectly transmitted data to said controller by means of an additional transmission path, and wherein said controller is configured for repeating said incorrectly transmitted data packages upon request by said analyzer.

Richley et al. teach near field coupling is employed for transferring data back and forth between stations (abstract, Figs. 4-5), which would have been obvious for one of ordinary skill in the art to incorporate into the devices of Rider and Meinke with modification of near-field transceiver taught by Richley et al., in order to enable two-way communication.

Marchetto et al. teach an analyzer coupled between said receiver and said data sink, wherein said analyzer is configured for signaling incorrectly transmitted data to said controller by means of an additional transmission path, and wherein said controller is configured for repeating said incorrectly transmitted data packages upon request by said analyzer (abstract, Fig. 2, column 1 line 57 to column 3 line 30).

Despite difference in wireless communication protocols, requesting retransmission for detecting error data for completing data reception would have been an obvious feature in wireless communication for one of ordinary skill in the art.

Art Unit: 2618

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate having means for requesting retransmission taught by Machetto et al. into the device of Rider, Meinke, and Richley et al., in order to provide resilient communication.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZHIYU LU whose telephone number is (571)272-2837. The examiner can normally be reached on Weekdays: 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2618

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zhiyu Lu
Examiner
Art Unit 2618

/Zhiyu Lu/
Examiner, Art Unit 2618
July 15, 2010